

The Bleating Tree Frog *Litoria dentata* Keferstein (Anura: Hylidae): an addition to the frog fauna of Victoria

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Abstract

The Bleating Tree Frog *Litoria dentata* is a pond-breeding species distributed along the east coast of Australia from southern Queensland to southern New South Wales. We report the discovery of a population of this species in Victoria, near Genoa, East Gippsland. This finding constitutes a southerly range extension for the species and takes to 38 the number of frog species known to occur in Victoria. (*The Victorian Naturalist* 128 (6) 2011, 256-259)

Key Words: *Litoria dentata*, range extension, amphibian, tree frog

Introduction

The Bleating Tree Frog *Litoria dentata* Kerferstein is a pond-breeding species morphologically similar to the Southern Brown Tree Frog *L. ewingii*. It is distributed along the eastern slopes of the Great Dividing Range, predominantly in the lowlands and coastal hinterlands of New South Wales and south-east Queensland (Cogger 2000). The species is widespread and considered secure within its range (Hero *et al.* 2006). *Litoria dentata* has been found in a wide variety of habitats, including coastal heathlands and woodlands, dry forest, rainforest and urban environments (Anstis 2002; Cogger 2000). It typically breeds in seasonally inundated grassy swamps after or during spring and summer rainfall (Anstis 2002), and has a loud and distinctive advertisement call accurately described as 'a long penetrating, wavering bleat' (Cogger 2000: 136).

The previous southernmost records of *L. dentata* are from the northern end of Nadgee Nature Reserve in the south-eastern corner of New South Wales (National Parks and Wildlife Service 2010). Wildlife surveys in eastern Victoria, including those that have targeted frogs, have not encountered this species previously.

Identification

Litoria dentata is a relatively small tree frog attaining a maximum length of 45 mm. It has a dark brown band along its dorsum, usually commencing at the snout, and varying in width, being narrowest over the shoulders. The dor-

sum on either side of this band and the upper surfaces of the limbs are creamy-brown to yellow. The flanks and concealed parts of the limbs are often yellow, especially in males. Ventral surfaces are also yellowish; males have a dark olive brown or black throat. The skin is smooth above, or with a few very small tubercles, and granular below except on the throat. There is a prominent inner metatarsal tubercle and no outer one. The tympanum is very distinct. The finger and toe discs are of moderate width and wider than those of *L. ewingii*. Webbing is also more extensive than that of *L. ewingii*; fingers are nearly one-third webbed and toes are nearly three-quarters webbed (Cogger 2000).

Observations

In East Gippsland during December 2010, we conducted an amphibian survey commissioned by the Victorian Department of Sustainability and Environment. The primary purpose of this survey was to search for the endangered Southern Barred Frog *Mixophyes balbus*, which has not been seen in Victoria for nearly 30 years (Gillespie and Hines 1999). However, while surveying, we also took the opportunity to undertake a search for other frog species. On 2 and 5 December 2010, nocturnal aural surveys for frogs were conducted along the Genoa River Valley from Wangarabell to the coast, east of Mallacoota. Sampling was undertaken by driving along roads that followed or traversed the valley, with halts every few hundred

Table 1. Details of Victorian localities at which *Litoria dentata* was found, along with other species present.

	Site 1	Site 2	Site 3
Location	37° 28' 47.4" 149° 36' 52.1"	37° 28' 57.3" 149° 35' 55.4"	37° 29' 1.0" 149° 36' 2.6"
Elevation (m a.s.l.)	20	21	21
Species			
<i>Litoria dentata</i>	+	+	+
<i>Litoria aurea</i>		+	
<i>Litoria ewingii</i>			+
<i>Litoria peroni</i>	+	+	+
<i>Litoria verreauxii</i>		+	+
<i>Crinia signifera</i>		+	+
<i>Limnodynastes dumerilii</i>		+	+
<i>Limnodynastes peronii</i>	+	+	

metres to listen for frog calls. Also during the daytime reconnaissance of roads, other potential frog breeding sites at various dams, swamps and gullies were located and documented by GPS for targeting at night. Conditions on both nights were overcast with intermittent rain, approximately 20°C and >95% humidity.

Litoria dentata was located at three sites along the Genoa-Mallacoota Road, approximately 1.1–4.5 km east of the township of Genoa (Table 1). The frogs were easily identified by their advertisement call. On 2 December a small chorus of approximately 5 males was heard at the first site, and a much larger chorus of at least 20 males was calling from the second site, at which we also observed several pairs in amplexus (Fig. 1). Two individuals were collected from each of these localities and lodged with Museum Victoria (specimen nos. MVD74930–74933). On 5 December, *L. dentata* was not heard at either of these sites, but a single male was heard calling at a third site. Seven other frog species were also located at these sites, including a nationally threatened species the Green and Golden Bellfrog *Litoria aurea*, (Department of Sustainability, Environment, Water, Populations and Communities 2010) (Table 1).

All sites were in farmland on the floodplain of the Genoa River at an elevation of approximately 20 m ASL. The sites were similar, each comprising a shallow rain pool <30 cm deep and 100–300 m² in area, with extensive dense emergent and fringing grasses and herbs. This habitat is typical of *L. dentata* breeding sites observed in New South Wales (G Gillespie pers. obs.).

Significance

This finding constitutes an addition to the frog fauna of Victoria and a significant southerly range extension for *L. dentata*. The nearest known records are approximately 40 km further north in New South Wales (Fig. 2).

Why has this population not been located previously? The site is highly accessible and numerous herpetologists, including both authors, have visited the area at times over the past 50 years, as reflected in the records of the Victorian Biodiversity Atlas (Department of Sustainability and Environment unpublished). Biodiversity surveys that included amphibians have also been undertaken in the local area (e.g. Gillespie *et al.* 1992; Sutter *et al.* 1992). The call of *L. dentata* is loud and unmistakable; a single calling individual is audible, even over the calls of other frog species, over a distance of 100 m (G Gillespie pers. obs.).

It is possible that this range expansion is a result of climate change, though this would be surprising given that the prolonged drought in south-eastern Australia which would not have been conducive to frog population movements. It is also conceivable that the population represents a deliberate or accidental introduction (as in the case of *Litoria fallax*; Gillespie and Cleemann 2000), but its location far from a human population centre suggests that this is also unlikely. In light of the species being an explosive breeder, that is active only sporadically after heavy rain, it is most probable that the population represents a small relic of a once-wider distribution, which may have been missed by earlier surveys.



Fig. 1. Pair of *Litoria dentata* in amplexus, from site 2 in Table 1.

Several frog species have been added to the Victorian list in recent years (e.g. Gillespie and Hunter 1999; Gillespie and Clemann 2000). *Litoria dentata* is unlikely to be the last. The known distributions of other species, such as the Broad-palmed Frog *Litoria latopalmata* and the Jervis Bay Tree Frog *L. jervisiensis*, also come very close to the border (NPWS 2010), and it is entirely possible that these species occur in Victoria. The discovery of *Litoria dentata* in Victoria highlights the fact that knowledge of the distribution of biodiversity in this most densely-populated of Australian states is by no means comprehensive.

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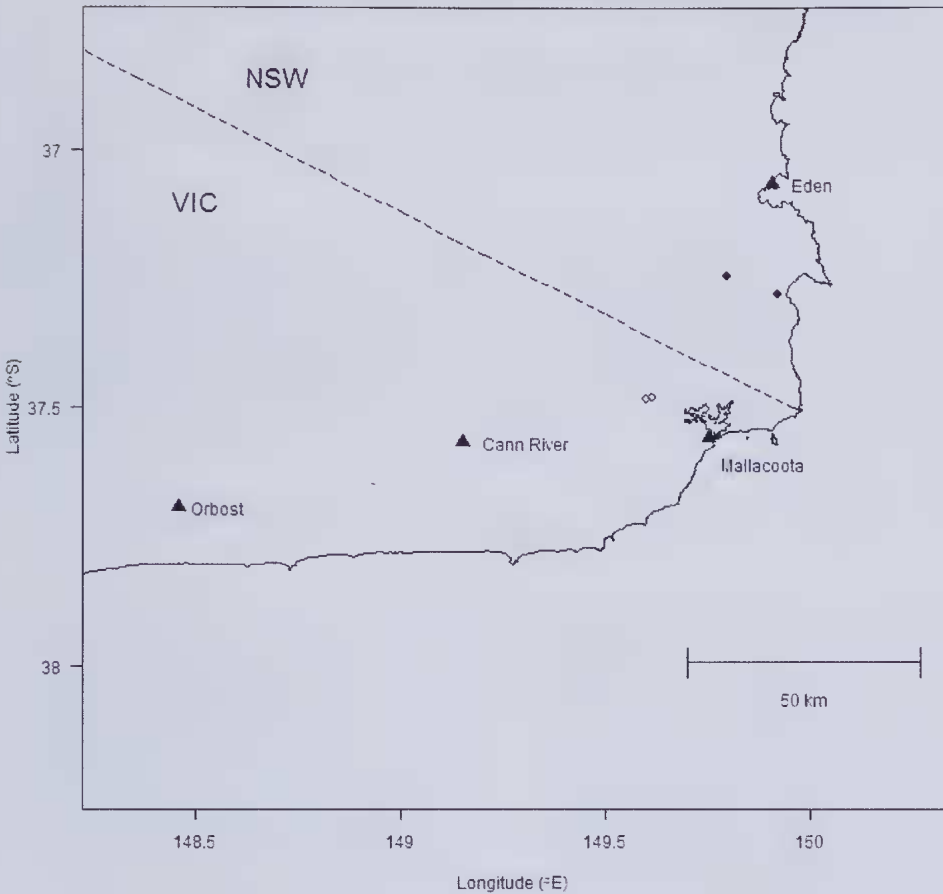


Fig. 2. Distribution of *Litoria dentata* in eastern Victoria and southeastern New South Wales. Open circles – new localities in Victoria; solid circles – nearest historic localities in New South Wales Source: Atlas of NSW Wildlife (NPWS 2010).

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